



UNIVERSITY OF
SWAZILAND

FACULTY OF HEALTH SCIENCES

B.Sc. ENVIRONMENTAL HEALTH SCIENCE

SEMESTER II

SUPPLEMENTARY EXAMINATION

TITLE OF PAPER: PRINCIPLES OF DAIRY TECHNOLOGY

COURSE CODE: EHM324

DURATION: 2 HOURS

DATE: JULY 2015

INSTRUCTIONS:

1. READ THE QUESTIONS CAREFULLY.
2. ANSWER ANY 4 OUT OF 5 QUESTIONS.
3. EACH QUESTION CARRIES 25 MARKS. WHERE A QUESTION IS SUBDIVIDED INTO PARTS, THE MARK FOR EACH PART IS SHOWN IN BRACKETS.
4. NO PAPER SHOULD BE BROUGHT INTO THE EXAMINATION ROOM.
5. BEGIN EACH QUESTION ON A SEPARATE SHEET OF PAPER.

SPECIAL REQUIREMENTS: NONE

DO NOT OPEN THE QUESTION PAPER UNTIL INSTRUCTED TO DO SO BY THE INVIGILATOR.

QUESTION 1

- a. State the ideal properties of butter. [5]
- b. Using a diagram, illustrate the preparation of sweetened condensed milk. [10]
- c. Briefly describe the production processes for fruit flavoured set yoghurt. [10]

[25]

QUESTION 2

- a. List the possible causes of variation in milk composition. [5]
- b. State the factors that influence the natural creaming of milk. [8]
- c. Discuss the quality problems that may be encountered with evaporated milk? [12]

[25]

QUESTION 3

- a. Discuss the technological implications of the presence of bacteriophages in milk. [15]
- b. Discuss the role of starter culture during manufacture of cheese. [10]

[25]

QUESTION 4

- a. Manufacture of extended shelf-life milk may require two heat treatments, (e.g. 140°C for 2 s; and 72°C for 15 s). Explain the rationale behind this approach and its effect on shelf life. [10]
- b. Describe the key steps in the manufacture of cheddar cheese. Use a diagram to illustrate your answer. [15]

[25]

QUESTION 5

- a. State the purpose of homogenising milk. [8]
- b. Briefly discuss the effects of homogenisation on storage stability of the milk. [7]
- c. Using a diagram, illustrate the sequence for the production of standardized, homogenised, pasteurised milk. [10]

[25]

END OF EXAMINATION